Title (en)

WIND TURBINE BLADE WITH BASE PART HAVING INHERENT NON-IDEAL TWIST

Title (de)

WINDTURBINENBLATT MIT BASISTEIL MIT NICHT-IDEALER EIGENDREHUNG

Title (fr)

PALE D'ÉOLIENNE AVEC PARTIE DE BASE PRÉSENTANT UNE TORSION INHÉRENTE NON IDÉALE

Publication

EP 2432995 B1 20200506 (EN)

Application

EP 10723008 A 20100518

Priority

- EP 2010056793 W 20100518
- EP 09160477 A 20090518
- EP 10723008 A 20100518

Abstract (en)

[origin: EP2253834A1] A blade for a rotor of a wind turbine having a substantially horizontal rotor shaft is described. The rotor comprises a hub, from which the blade extends substantially in a radial direction when mounted to the hub. The blade comprises a profiled contour comprising a pressure side and a suction side as well as a leading edge and a trailing edge with a chord extending between the leading edge and the trailing edge, the profiled contour generating a lift when being impacted by an incident airflow, the profiled contour in the radial direction being divided into a root region with a substantially circular or elliptical profile closest to the hub, an airfoil region with a lift generating profile furthest away from the hub, and preferably a transition region between the root region and the airfoil region, the transition region having a profile gradually changing in the radial direction from the circular or elliptical profile of the root region to the lift generating profile of the airfoil region, wherein the airfoil region comprises at least a first longitudinal segment extending along at least 20% of a longitudinal extent of the airfoil region, the first longitudinal segment comprising a first base part having a leading edge and a trailing edge with a chord extending between the leading edge and the trailing edge. The first base part has an inherent non-ideal twist, such as no twist, or a reduced twist compared to a target blade twist, so that an axial induction factor of the first base part without flow altering devices at a design point deviates from a target axial induction factor. The first longitudinal segment is provided with a number of first flow altering devices arranged so as to adjust the aerodynamic properties of the first longitudinal segment to substantially meet the target axial induction factor at the design point.

IPC 8 full level

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CPC (source: EP US)

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US 2007140858 A1 20070621 - BAKHUIS JAN W [NL], et al

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